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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,376	10/07/2005	Hua Chen	H0003955	9276

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HONEYWELL TURBO TECHNOLOGIES
23326 HAWTHORNE BOULEVARD, SUITE #200
TORRANCE, CA 90505

EXAMINER

VERDIER, CHRISTOPHER M

ART UNIT	PAPER NUMBER
3745	

MAIL DATE	DELIVERY MODE
08/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/552,376

Applicant(s)

CHEN, HUA

Examiner

Christopher Verdier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1-13-06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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Receipt and entry of Applicant's Preliminary Amendment (Article 19 Amendment) dated October 7, 2005 is acknowledged.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The box for not claiming foreign priority based on PCT/GB2002/003779 is checked, but should not be checked.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "20". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

The disclosure is objected to because of the following informalities: Appropriate correction is required.

On page 2, line 5, -- , -- should be inserted after "shaft".

On page 5, line 15, --) -- should be inserted after ""spins".

Claim Objections

Claims 4-15 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 4-15 have not been further treated on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2, 3/1, and 3/2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, line 4 "a gas glow path" is unclear; it appears that this should be -- a gas flow path --. In claim 3, line 4, "the housing" lacks antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

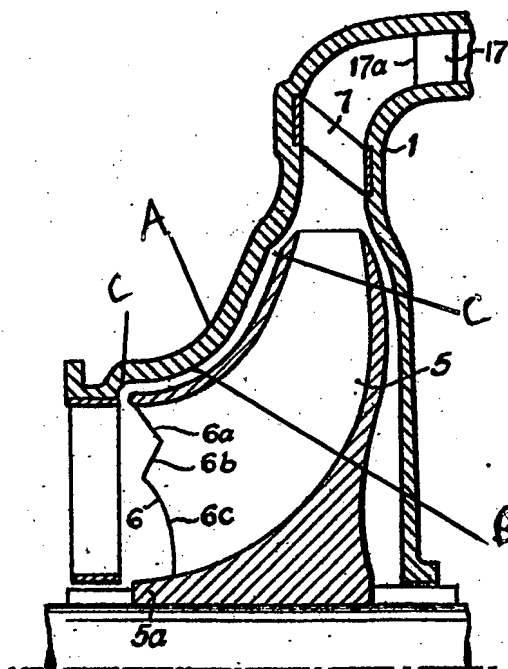
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 3/1, and 3/2, as far as they are definite and understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 5-106,598. Disclosed is a compressor comprising a compressor wheel 2 having compressor blades and being mounted for rotation on a shaft 1, a shroud 3 mounted adjacent the wheel and defining a gas flow path between the shroud and the blades from a compressor inlet 4 to a diffuser outlet near 5, wherein in cross-section the shroud has a surface in the flow path with a profile which includes a section with a smoothly curving surface and a relative discontinuity 8, including a blocking face adapted to impede reverse flow of gas between the shroud and the wheel. The discontinuity is located at a predetermined radius from the shaft which radius is larger than the radius of the wheel. The radial distance S between the discontinuity and the tip of the leading edge of the wheel is of the same approximate order as the radial clearance between the wheel and the housing at the wheel leading edge.

Claims 1 and 3/1, as far as they are definite and understood, are rejected under 35 U.S.C. 102(b) as being anticipated by United Kingdom Patent 636,290 (figures 1-2). Disclosed

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is a compressor comprising a compressor wheel 5a having compressor blades 5 and being mounted for rotation on an unnumbered shaft, an unnumbered outer shroud A (surrounding the compressor wheel) mounted adjacent the wheel and defining a gas flow path between the shroud and the blades from a compressor inlet near 6 to a diffuser outlet near 7, wherein in cross-section the shroud has a surface in the flow path with a profile which includes a section with a smoothly curving surface B and relative discontinuities C, each including a blocking face adapted to impede reverse flow of gas between the shroud and the wheel. The radial distance between the discontinuity and the tip of the leading edge of the wheel is of the same approximate order as the radial clearance between the wheel and the housing at the wheel leading edge. See the annotated figure below.

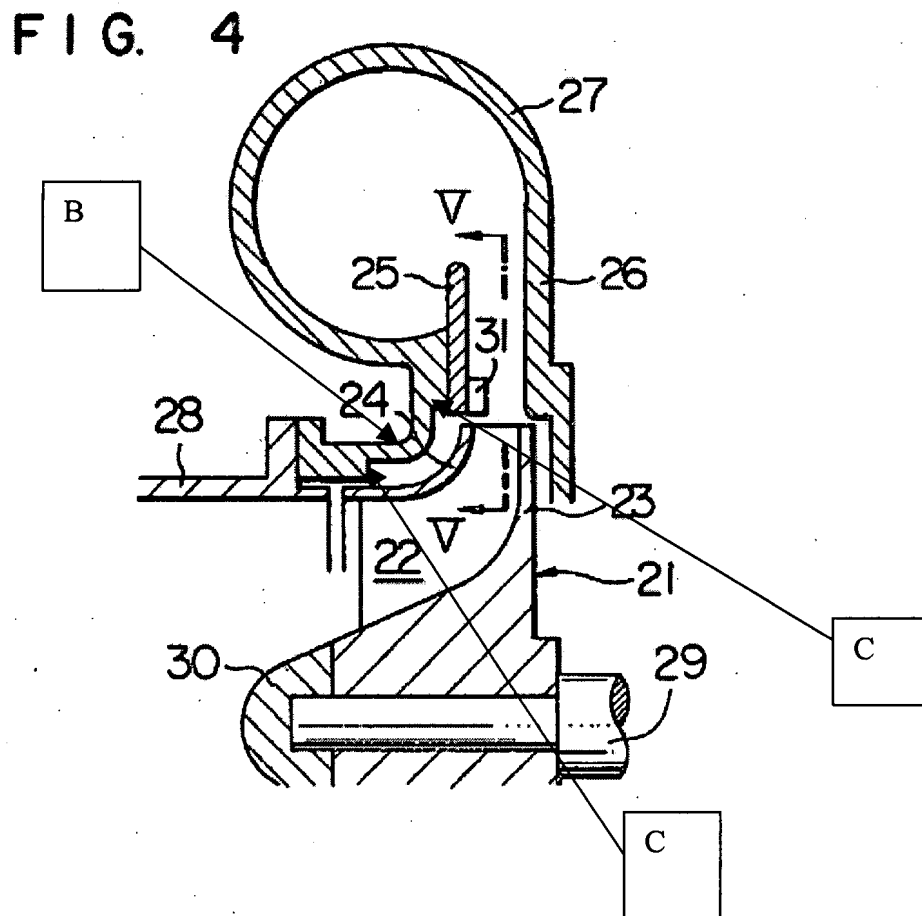


Claims 1-2, as far as they are definite and understood, are rejected under 35

U.S.C. 102(b) as being anticipated by Yoshinaga 4,395,197 (figure 4). Disclosed is a

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compressor comprising a compressor wheel 21 having compressor blades 22 and being mounted for rotation on a shaft 29, a shroud 27 mounted adjacent the wheel and defining a gas flow path between the shroud and the blades from a compressor inlet near 30 to a diffuser outlet near 31, wherein in cross-section the shroud has a surface in the flow path with a profile which includes a section with a smoothly curving surface B and two relative discontinuities C, each including a blocking face adapted to impede reverse flow of gas between the shroud and the wheel. One discontinuity is located at a predetermined radius from the shaft which radius is larger than the radius of the wheel. See the annotated figure below.



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Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Japanese Patent 2-78,788, Furuya (figure 2), Fabri, and Jones are cited to show compressors having shrouds with surfaces in flow paths with profiles which include sections with smoothly curving surfaces and relative discontinuities. These references could also have been applied as they anticipate at least claim 1 under 35 U.S.C. 102, but are not applied at this time in order to avoid multiple rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.V.
August 10, 2007


Christopher Verdier
Primary Examiner
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